Assignment for RE development study

PLOT DATA:
Address: 2030 Érd Sándor utca 2.
Topographical number (lot number): 13629
Size of plot: 1495 m2
Zoning: (Vt) - Urban

Develoment parameters LIMITATIONS:
Max. plot coverage (%): 0,6
Min. green coverage (%): 0,2
Max. floorspace ratio: 1,8
Max. building height: 10 m (basement + ground floor + 2 floors)
Front yard: 6,00 m
Side yard: 3,75 m
Development pattern: detached

The PROJECT is to create a building on the plot with the following functions:

- basement: underground garage for 10 cars
- groud floor: offices
- 1st and 2nd floor: apartments

Tasks

A) Create the draft plans for the building (each level) taking into consideration the followings:
    a. The net area should be as high as possible
    b. The outer walls are at least 45 cm thick
    c. The walls between apartments and staircase are at least 30 cm thick
    d. There should be at least 12 apartments in the building, with the area min. 45m^2 max. 60m^2
    e. The average size of apartments (considering every apartments) should be 50-55 m^2
    f. The ground floor should contain at least 5 separated offices/shops

    The communication within the building (horizontal and vertical) and the arrangement of the units should be planned. The areas of the offices/apartments should be indicated on the plans.

    Requirements:
    a. The limitations must be kept, the maximum built-in area is the aim.
    b. The apartments need direct access from the staircase or corridor.
    c. Every apartment needs to have a minimum façade length (at least on one side) net area/8 m for apartments in the middle, net area/6 m for apartments on the edge of the building.

    A parking slot for 10 cars (and the roads/paths) in the garden should also be planned.

Fill in the following table:

	footprint (m^2)	**gross area (m^2)**	**green area (m^2)**	**number of planned apartments (pcs)**	**avg. apartment size (m^2)**	**sum of net apartment areas (m^2)**	**sum of net offices areas (m^2)**
based on the limitations				-	-	-	-
based on the actual plan							

B) Make calculations about the construction project
   a. Calculation of construction costs
   b. Calculation of total project costs
   c. Calculation of the net present value
   d. Calculation of the rate of return
   e. Cash-flow in case the apartments are sold, the offices rented
   f. Cash-flow in case the apartments and the offices are rented

Basic data for calculations:

Costs:

Cost group		Percent of 300+400 or cost
100	Plot	50 000 000 HUF
200	Infrastructure	5%
300	Building construction	255 000 HUF/m^2 for apartments 265 000 HUF/m^2 for offices 155 000 HUF/m^2 for basement
400	Construction of building installations and electrical	
410	Water, sewage, gas	24 000 HUF/m^2 for apartments 26 000 HUF/m^2 for offices 12 000 HUF/m^2 for basement
420	Heating	39 000 HUF/m^2 for apartments 33 000 HUF/m^2 for offices
430	Ventilation and AC	6 000 HUF/m^2 for apartments 7 000 HUF/m^2 for offices 15 000 HUF/m^2 for basement
440+450	Electricity, Telecommunication and IT	33 000 HUF/m^2 for apartments 50 000 HUF/m^2 for offices 23 000 HUF/m^2 for basement
460	Transportation equipment (elevator)	12 000 000 HUF/pcs
500	Outdoor constructions (parking, roads)	30 000 HUF/m^2
600	Installation and artwork	0-100%
700	Additional expenses	10%

Modification based on quality level: 88%-135%

Incomes:

- selling price for apartments 470 000 – 600 000 HUF/m^2
- rental price for apartments 2 000 – 3 000 HUF/m^2
- rental price for offices/shops 3 000 – 4 000 HUF/m^2